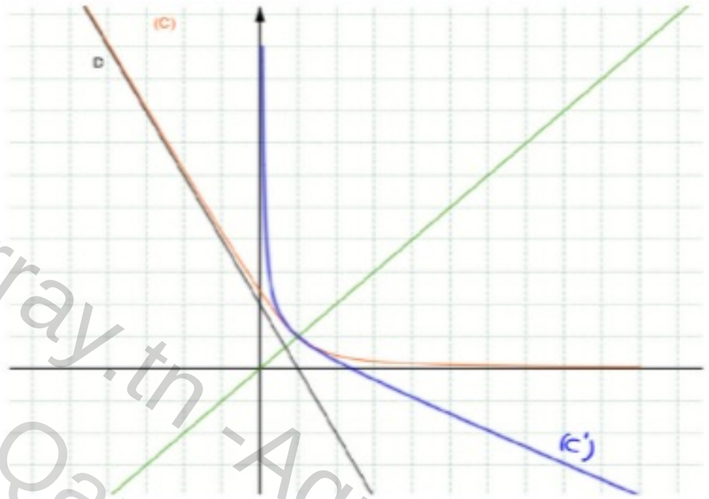
d'où f^{-1} est dérivable en 1 et $(f^{-1})'(1) = \frac{1}{f'(1)} = -1$



3- a- $f^{-1} :]0;+\infty[\longrightarrow \mathbb{R}$

$x \longrightarrow f^{-1}(x) = y$

Soit $x \neq 2$.

$y = f^{-1}(x) \Leftrightarrow f(y) = x \Leftrightarrow 1 - y + \sqrt{y^2 - 2y + 2} = x$

$\Leftrightarrow \sqrt{y^2 - 2y + 2} = x + y - 1$

$\Leftrightarrow y^2 - 2y + 2 = (x-1) + y)^2 = (x-1)^2 + 2y(x-1) + y^2$

$\Leftrightarrow -2y + 2 = x^2 - 2x + 1 + 2yx - 2y$

$\Leftrightarrow 2yx = 2x - x^2 + 1$

$\Leftrightarrow y = \frac{-x^2 + 2x + 1}{2x} = \frac{(1-x)(1+x)}{2x} + 1$

d'où $f^{-1}(x) = \frac{(1-x)(1+x)}{2x} + 1$

$\forall x \in J =]0;+\infty[$

Qarray.tn -Aqra Blech- Qarray.tn -Aqra Blech- Qarray.tn
www.takiacademy.com

Correction Magazine 1 (
Enonce Magazine 2 (etu
Correction Magazine 2 (
Enonce Magazine 3 (etu
Correction Magazine 3 (
Enonce Magazine 4 (etu
Correction Magazine 4 (
Enonce Magazine 5 (etu
Correction Magazine 5 (
Enonce Magazine 6 (etu
Correction Magazine 6 (